



(51) International Patent Classification<sup>7</sup>: H04L 1/16,  
H04Q 7/38

[AU/AU]; c/o NEC Australia Pty. Ltd., 635 Ferntree Gully  
Road, Glen Waverley, VIC 3150 (AU).

(21) International Application Number:  
PCT/JP2004/015650

(74) Agent: MARUYAMA, Takao; Maruyama Patent Office,  
SAM Build., 3 Floor, 38-23, Higashi-Ikebukuro 2-chome,  
Toshima-ku, Tokyo 170-0013 (JP).

(22) International Filing Date: 15 October 2004 (15.10.2004)

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2003905712 17 October 2003 (17.10.2003) AU

(71) Applicant (for all designated States except US): NEC  
CORPORATION [JP/JP]; 7-1, Shiba 5-chome, Mi-  
nato-ku, Tokyo 108-8001 (JP).

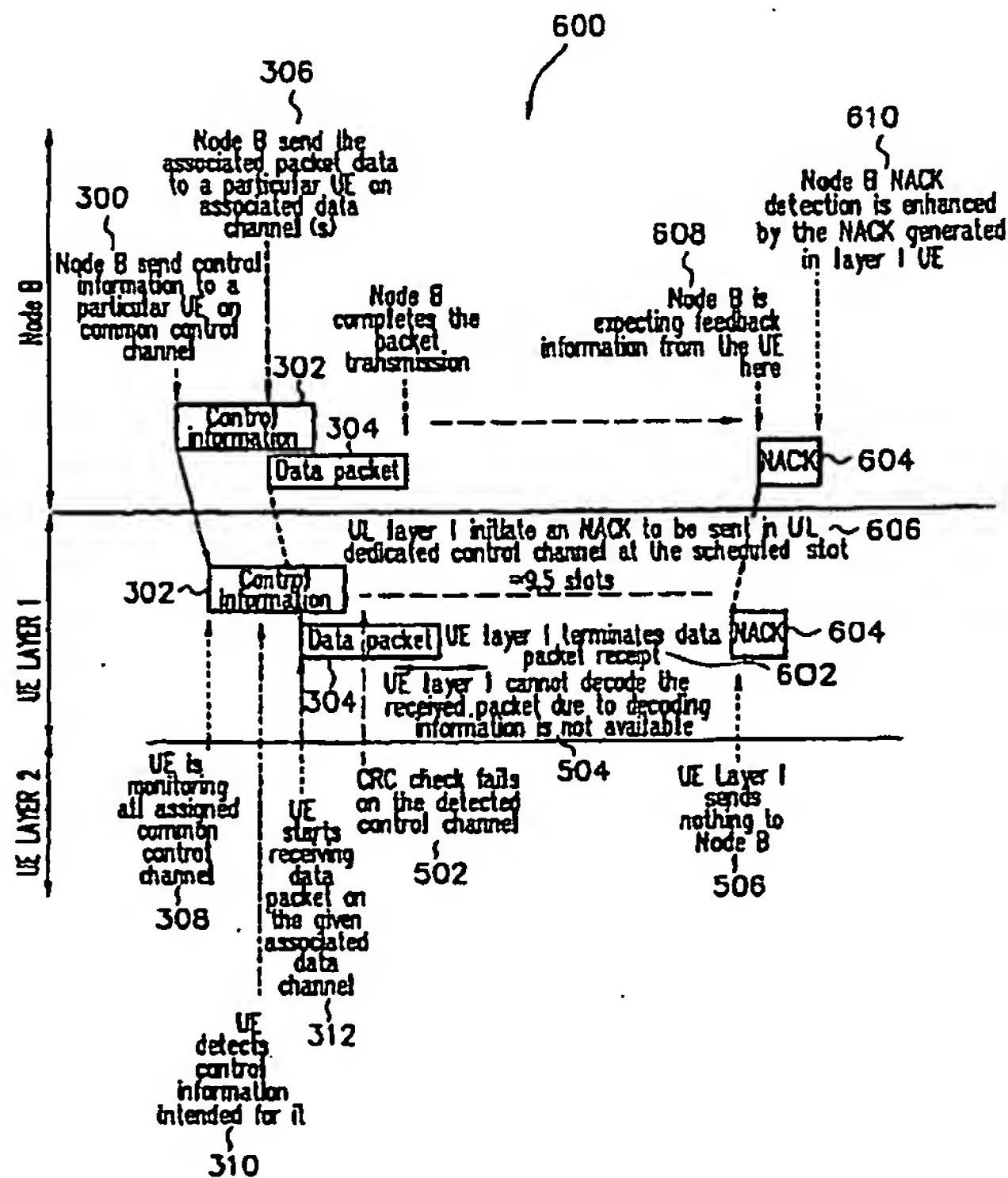
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,

(72) Inventor; and

(75) Inventor/Applicant (for US only): NGUYEN, Phong

[Continued on next page]

(54) Title: ARQ CONTROL IN AN HSDPA COMMUNICATIONS SYSTEM



(57) Abstract: A method of Automatic Repeat reQuest (ARQ) control in a High Speed Downlink Packet Access (HSDPA) communication system. The method includes transmitting (300) control information from a first station to a second station; commencing receipt (312) of the control information at the second station; checking (502) whether the control information was received with error; and if so, generating (604) a negative acknowledgment (NACK) message for transmission to the first station. The control information error checking and acknowledgment message generating is performed at the second station by carrying out processing operations within radio interface layer 1 (UE layer 1).